REMARKS

Applicant has amended claims 197, 227, 273, 278-282, and 284, cancelled claims 277 and 283 and has added new dependent claims 285 and 286 as set forth above. Applicant notes with appreciation the Office's indication that claims 215 and 245 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, in view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has rejected claims 197-256, 271-284 (excluding all previously nonelected claims and their dependents) rejected under 35 U.S.C. 112, second paragraph, asserting the independent claims are claiming an untrue statement with respect to the Nyquist criterion which renders the claims indefinite. Accordingly, Applicant has amended independent claims 197, 227, 273, and 279 as set forth above to remove the reference to the Nyquist equation. In view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw this rejection under 35 U.S.C. 112, second paragraph.

Additionally, the Office has rejected claims 197, 198, 201, 227, 228, and 231 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,294,970 to Dornbusch (Dornbusch), claims 197, 202, 228, 232, and 253 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch, claims 203, 223, and 232 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 6,450,267 to Ohtomo (Ohtomo), claims 207-209 and 237-239 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,889,490 to Wachter (Wachter), claims 212 and 242 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,751,406 to Nakazawa (Nakazawa), claims 213, 214, 243, 244, 269, 271, 273, 274, 275, 276, 277, and 228 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,767,409 to Yamaguchi (Yamaguchi), claims 217 and 247 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 6,288,776 to Cahill (Cahill), claims 219 and 249 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,870,180 to Wangler (Wangler), claims 220, 221, 250, and 251 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,589,928 to Babbitt (Babbitt), and claims 224 and 254 under 35 U.S.C. 103(a) as being unpatentable over Dornbusch in view of U.S. Patent No. 5,612,883 to Schaffer (Schaffer).

Dornbusch, Ohtomo, Wachter, Nakazawa, Yamaguchi, Cahill, Wangler, Babbitt, and Schaffer, alone or in combination do not disclose or suggest, "equivalent time sampling at two or more times of at least one portion of the received signal to obtain a sampled signal, wherein a time period between the times for sampling is greater than a period of the at least one transmitted signal . . . determining a measured parameter based on at least one of an amplitude of the sampled signal and a phase of the sampled signal" as recited by claim 197, "an equivalent time sampling system that at two or more times samples at least one portion of the received signal to obtain a sampled signal, wherein a time period between the times for sampling is greater than a period of the at least one transmitted signal . . . a parameter processing system that determines a measured parameter based on at least one of an amplitude of the sampled signal and a phase of the sampled signal" as recited by claim 227, or "equivalent time sampling at two or more times at least one portion of the received signal to obtain a sampled signal, wherein a time period between the times for sampling is greater than a period of the at least one coherent burst signal . . . determining the distance based on the sampled signal and a phase difference between the transmitted signal and the sampled signal" as recited by claim 273.

Contrary to the Office's assertions, equivalent time sampling of at least one portion of the signal is not inherent within Dornbusch. The Office's attention is respectfully directed to col. 3, line 63 to col. 4, line 2 in Dornbusch which states:

> The reflected light beam is received by a light sensitive detector 110 located on the fixed station 101. The light sensitive detector 110 generates an electrical pulse each time it receives a reflected light beam. The electrical pulses are sent to a processor 120 where they are individually time-labeled. The horizontal angle of the fanned laser beams as they strike the P-reflector 200 are determined at the processor by mathematical algorithms which use the timing information provided by the time-labels.

Accordingly, Dornbusch only discloses generating an electrical pulse which is individually time-labeled by the processor, but there is no teaching of any sampling of the received reflected light beam, let alone equivalent time sampling of the received reflected light beam at two or times to obtain a sampled signal or any suggestion why such sampling would even be necessary. Additionally, since there is no teaching or suggestion in Dornbusch of equivalent time sampling at two or more times to obtain a sampled signal, there also is no teaching or suggestion of having a time period between the samples being greater than a period of the transmitted signal. Further, Dornbusch only discloses determining a horizontal

angle of the fanned laser beam based on timing information provided by the time-labels and thus there is no teaching of using the amplitude or the phase of the electrical pulse generated when a reflected light beam is received nor any suggestion why amplitude or phase would ever be needed for the spatial positioning system taught by Dornbusch. As a result, since there is no teaching in Dornbusch of the equivalent time sampling as claimed and there is no suggestion or reason for one of ordinary skill in the art why the claimed equivalent time sampling would ever be needed in Dornbusch, which accomplishes its spatial positioning simply based on timing information on timing-labels, there is no basis to combine Dornbusch with any of the other cited references to overcome this deficiency.

With the present invention, a compact and eye safe measuring system which can maintain an accuracy down to one mm is provided that can be manufactured at a low cost. Therefore, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejections of claims 197, 227, and 273. Since claims 198, 201-203, 207-209, 212-214, 217, 219-221, 223, 224, 269, and 270 depend from and contain the limitations of claim 197, claims 228, 231-233, 237-239, 242-244, 247, 249-251, 253, 254, and 271 depend from and contain the limitations of claim 227, and claims 274-287 depend from and contain the limitations of claim 273, they are distinguishable over the cited references and are patentable in the same manner as claims 197, 227, 273, and 279.

Further, the Office has rejected claims 279-283 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,889,490 to Wachter (Wachter).

Wachter does not disclose or suggest, "an equivalent time sampling system that samples at two or more times at least one portion of the received signal to obtain a sampled signal, wherein a time period between the times for sampling is greater than a period of the at least one coherent burst signal . . . a distance processing system that determines the distance based on the sampled signal and a phase difference between the transmitted signal and the sampled signal" as recited by claim 279.

The Office has asserted that Wachter shows equivalent time sampling in columns 4 and 5 of Wachter, however Applicant has reviewed both of these columns in Wachter, but has found no mention or suggestion of an equivalent time sampling system that samples at two or more times at least one portion of the received signal to obtain a sampled signal, let alone an equivalent time sampling system with a time period between the times for sampling which is greater than a period of the at least one transmitted signal as claimed.

Additionally, the Office's attention is respectfully directed to FIGS. 3 and 4, col. 10, lines 16-25, and col. 11, lines 29-37 in Wachter, which illustrates and discloses a receiver (78), a bandpass filter (82), a power splitter (86), demodulators (92) and (94), and processor unit (108), but again makes no disclosure or suggestion of an equivalent time sampling system as claimed. Further, the Office's attention is directed to col. 10, line 45 to col. 11, line 18 and to col. 11, line 51 to col. 12, line 32 in Wachter, which discloses the processing which takes place once the signal is received which includes: a receiver signal (20) is detected by a receiver (78); converted into an electronic representation (80); the bandwidth of the electronic representation (80) of the receiver signal (20) is substantially limited to a band of frequencies closely distributed about that of the continuous reference signal (12) in a bandpass filter (82); the bandwidth limited signal (84) is divided into two equal components signal (88) and (90) and issued to demodulators (92) and (94) where they are mixed with a first secondary reference signal (96) and a second secondary reference signal (98) derived from the demultiplexer (58); the first signal (100) and second signal (102) are issued by the demodulators (92) and (94) in a way made to represent the first phase component (104) and the second phase component (106) of the demodulated signal; and then the signal processor unit (108) uses the first phase component (104) and the second phase component (106) signals to determine the phase of the demodulated signal relative to the reference signal (12) and the temporal delay of the demodulated signal relative to the gating pulse (68), however again there is no mention or suggestion of any equivalent time sampling as claimed. Even further attention is directed to FIG. 2 and col. 7, line 65 to col. 10, lines 5 in Wachter which discloses the steps involved in coherent burst processing which include demodulating the receiver signal RX(t) into real and imaginary components Re(t) and Im(t), but again there is no mention or suggestion of any equivalent time sampling as claimed.

As illustrated in FIGS. 6 and 7 in the above-identified patent application by way of example only, the present invention has an equivalent time sampling system that samples at two or more times at least one portion of the received signal to obtain a sample signal, where a time period between the times for sampling is greater than a period of the coherent burst signal from the transmission system. With this design the present invention provides a compact and eye safe measuring system which can maintain accuracy down to one mm and which can be manufactured at a low cost. Therefore, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejections of claim 279. Since claims 280-284 depend from and contain the limitations of

claim 279, they are distinguishable over the cited references and are patentable in the same manner as claim 279.

The Office has objected to claims 215 and 245 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In view of the foregoing amendments and remarks with respect to claims 197 and 227 from which these claims depend, claims 215 and 245 are believed to be in condition for allowance and the Office is respectfully requested to reconsider and withdraw this objection.

In view of all of the foregoing, Applicant submits this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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